

2005-2007 North Dakota Water Development Report

AN UPDATE TO THE
1999 STATE WATER MANAGEMENT PLAN

North Dakota State Water Commission
December 2004

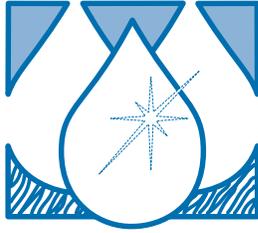


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Management Plan
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Introduction

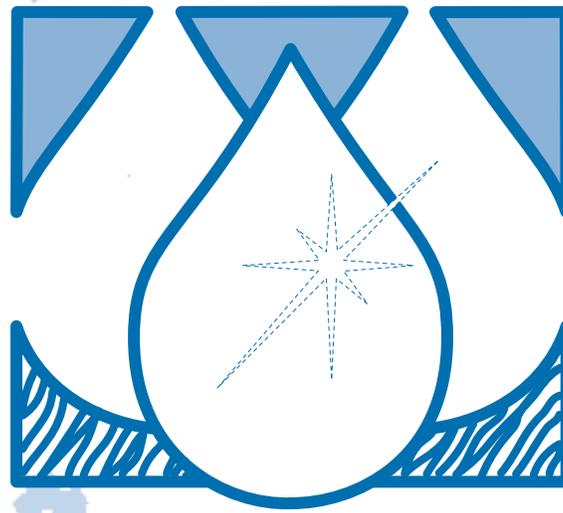
From the beginning of time, water has not only shaped landscapes, it has also shaped lives—sometimes for the better, other times for the worse. And in that truth lies a delicate balance, where over time we have learned to respect and live with our water resources as they naturally occur, but also to develop and manage them where appropriate, to harness their maximum benefit for all North Dakotans. It is that same water development and management that protects our cities from flooding, provides quality water at the turning of a tap, and provides the promise of a future for generations to come.

As we approach the 2005-2007 biennium, North Dakota's elected officials, as well as state and local water managers, can be very proud of the progress that has been made since the creation of the 1999 State Water Management Plan (SWMP), and the passage of critical legislation, such as Senate Bill 2188. The forward-thinking nature of those efforts during the 56th Legislative Assembly positioned North Dakota to develop and fund critical water projects throughout the state, that have since made North Dakota a better, and safer place to live.

Today, rural areas and communities in the eastern part of the state are less vulnerable to flooding than ever before. In the southwest, we have completed the original Southwest Pipeline Project; now providing a clean, reliable source of water to more than 34,000 people. In the northwest, pipeline is being installed as we push forward with the Northwest Area Water Supply Project, which ultimately may serve as many as 81,000 people. In the Devils Lake region, we are continuing to make progress in the

fight against that area's devastating flooding problems – including construction of an outlet to the Sheyenne River. And, after almost 15 years of struggle, North Dakota can now expect more of a fair shake when it comes to utilizing and securing our share of vital Missouri River water.

Clearly, we have indeed made tremendous strides just in the last few years, but yet, many critical water needs still



exist, and much remains to be done. And, in an effort to comprehensively identify those water development needs that mean so much to the regions of the state they benefit, we have created this report—the 2005-2007 North Dakota Water Development Report to serve that purpose.

Background

In 1999, the North Dakota State Water Commission (SWC or Commission) developed the 1999 SWMP. The 1999 SWMP was by far the most comprehensive effort ever undertaken in North Dakota to identify the water development needs of the state. In response, the Legislature took notice of the state's growing water project needs by passing SB 2188, which set

up the Water Development Trust Fund and provided authority to issue up to \$84.8 million in bonds to fund water projects statewide. In addition, the passage of House Bill 1475 devoted 45 percent of the state's tobacco settlement to the Water Development Trust Fund.

Then, in 2001 and 2003, updates and supplements to the 1999 SWMP were developed to provide updated water project information to the 57th and 58th Legislative Assemblies. The 2001 and 2003 reports provided updated information regarding the state's water development needs and funding abilities at those times. This report will serve a similar purpose during the 2005-2007 biennium and for the 59th Legislative Assembly.

Purpose and Authority

The purpose of the 2005-2007 Water Development Report is to:

- serve as a supplement to the 1999 SWMP;
- provide up-to-date information regarding North Dakota's current and future water development project needs;
- provide current information regarding North Dakota's ability to fund those water development needs;
- serve as a formal request for funding from the Resources Trust Fund; and
- provide updated information regarding the Commission's cost-share policies.

By virtue of North Dakota Century Code, Section 61-02-14, Powers and Duties of the Commission; and Section 61-02-26, Duties of State Agencies Concerned with Intrastate Use or Disposition of Waters, the Commission is required to develop and maintain a comprehensive water plan for the sound management of North Dakota's water resources.

Statewide Water Development Program

This section will briefly describe the inventory process used by the SWC Planning and Education Division to identify future water project or program funding needs. A discussion will also be provided of current water development activities, as well as project needs for the 2005-2007 biennium and beyond.

The Inventory Process

As part of the SWC's water planning efforts, the Planning and Education Division once again solicited project and program information from potential project sponsors. The results provide the SWC with an updated inventory of water projects and programs that are expected to come forward for SWC cost-share in the upcoming 2005-2007 biennium and beyond. As in the past, the product of this effort, or this report, becomes the foundation of the State Water Commission's budget request to the Governor and Legislature.

To obtain updated and new project and program information from sponsors, the Planning and Education Division sent project information forms to county water boards, joint boards, and communities. The managers of major water projects, including the Dakota Water Resources Act - Municipal, Rural, and Industrial Program; Northwest Area Water Supply Project; and Southwest Pipeline Project, were also surveyed. Information requested on the forms included general project descriptions, location, permit information, and

identification of potential obstacles, among other basic aspects of the projects.

More importantly, sponsors were asked to assign the most realistic start dates possible to projects they expected to present to the SWC for cost-share consideration - particularly during the 2005-2007 and later bienniums. As part of that effort, project sponsors needed to take into consideration when a funding commitment from the SWC will be needed, and to identify when state dollars will be necessary for projects or programs to proceed.

As the project information forms were received by the SWC, the information was transferred into the Planning and Education Division's water project database. This provides the SWC with updated project information for older projects and an accounting of new projects that have developed since the last inventory process, during the 2003-2005 biennium. The result of this inventory process is a comprehensive list of water projects throughout North Dakota that could come forward for new or additional cost-share in future bienniums. As stated earlier, this is an invaluable tool for budget planning purposes both for the SWC and the Legislature.



Project Inventories

The following tables will provide an inventory of: completed projects, 2003-2005 biennium (Table 1); currently active projects and funding, 2003-2005 biennium (Table 2); future water development needs, 2005-2007 biennium (Table 3); and potential water development funding needs, 2007-2011 (Table 4).

COMPLETED PROJECTS, 2003-2005 BIENNIUM

Table 1 lists the projects, programs, and studies that were completed during the 2003-2005 biennium as of October 2004.

CURRENTLY ACTIVE PROJECTS, 2003-2005 BIENNIUM

The projects and project categories listed in Table 2 represent water development efforts that are being pursued in the current biennium. Several individual projects are listed in the table. However, a number of others fall under project categories, such as irrigation development or general water management, and therefore, are not individually identified in the table.

Table 2 represents the total 2003-2005

Table 1: Completed Projects, 2003-2005 Biennium

PROJECT NAME	WATERSHED
Sweetwater-Morrison Lake Storage Contracts	Devils Lake
Lake George Outlet Control Structure	James
Brookfield Estates Diversion Ditch Extension	Missouri
Buford-Trenton Irrigation District Pump House and Controls Upgrade	Missouri
City of Bismarck Stormwater Management	Missouri
Economic Value of Lake Sakakawea Fishing Study - NDSU	Missouri
North Lemmon Lake Dam Repair	Missouri
Sertoma Park Purple Loosestrife Weed Control	Missouri
Sioux Irrigation District	Missouri
Cass County Drain #27	Red
Cass County, Swan Creek Diversion	Red
Elm River Dam #3	Red
Grand Forks County Drain #27	Red
Grand Forks County Drain #27A	Red
Griggs County (Cooperstown) Drain #3 Eng. Feasibility	Red
Homme Dam Beach & Sidewalk	Red
Leonard Twp. EWP Natural Drainage Reconstruction	Red
Pembina County Drain #4	Red
Red River Basin Commission Main-stem Modeling	Red
Red River Basin Commission PIRC Project	Red
Rush River, Amenia Twp. CAT Drop Structure Repair	Red
Sheyenne River Snagging and Clearing	Red
Steele-Traill County Drain #7	Red
Steele-Traill County Drain #17	Red
Traill County (Garfield-Viking) Drain #59	Red
Traill County Drain #27	Red
Traill County Drain #58	Red
Upper Elm River Watershed Analysis and Channel Improvement Study	Red
USGS Red River Wetland Monitoring and Modeling	Red
Wild Rice River Snagging and Clearing	Red
Des Lacs River Upper Basin Floodwater Storage	Souris
ND Water Resource Districts Asso. Handbook	Statewide
North Dakota Natural Resources Trust	Statewide
Will and Carlson Consulting	Statewide

SWC project budget, and what the SWC had approved for project funding just over half way through the biennium. As the table suggests, the SWC had approved about 95 percent of the project budget by October 2004.

FUTURE WATER DEVELOPMENT NEEDS, 2005-2007 BIENNIUM

Table 3 contains the projects that could come forward for SWC cost-share in the 2005-2007 biennium. This

cost-share policies, including: water supply, snagging and clearing, drainage/channel improvements, flood control, irrigation, bank stabilization, studies and planning, and multi-purpose projects. The total financial need to implement all of the projects in the 2005-2007 inventory is at least \$307 million. The state's share of that total is about \$71 million, based on current cost-share requirements. The federal government and local project sponsors would be responsible to make up the balance.

Table 2: Currently Active Projects and Funding, 2003-2005 Biennium

PROJECT OR CATEGORY	BUDGET	SWC/SE APPROVED
Baldhill Dam Flood Control	\$ 760,127	\$ 760,127
Devils Lake Basin Development	1,000,000	524,846
Devils Lake Dike	4,074,202	4,074,202
Devils Lake Outlet	26,930,383	26,930,383
Eastern Dakota Water Supply	127,014	127,014
Fargo Flood Control	2,467,000	0
General Water Management	12,658,221	11,278,774
Grafton Flood Control	4,633,000	4,643,500
Grand Forks Flood Control	18,106,229	18,106,229
Irrigation Development	2,881,575	1,881,575
Maple River Dry Dam	4,500,000	4,500,000
Missouri River Management	100,000	0
Municipal, Rural & Industrial Water Supply	11,046,606	11,046,606
Northwest Area Water Supply	2,400,000	2,400,000
Southwest Pipeline	6,149,000	6,149,000
Wahpeton Flood Control	1,000,000	740,051
Weather Modification	350,000	350,000
Total Cost	\$ 99,183,357	\$ 93,512,307

accounting of projects simply represents a non-prioritized list of needs as submitted by water managers. It does not guarantee, in any way, that all of the projects listed will receive funding.

The list is organized into eight categories based on SWC

It should be recognized that the 2005-2007 totals do not account for projects that may not seek funding in the current 2003-2005 biennium and will carry over to the next biennium. As a result, the actual need for the upcoming biennium has the potential to be greater than portrayed here. In contrast, it should also be noted that water development projects can be delayed as a result of local or federal funding problems, permits, or environmental issues, which can substantially influence the actual need for any given biennium.

WATER DEVELOPMENT FUNDING NEEDS BEYOND 2005-2007

Table 4 represents the potential funding need that was reported by project sponsors by category beyond the 2005-2007 biennium, through 2011. Projects included in this timeframe were either identified by project sponsors to move ahead beyond June 30, 2007, or they were placed into a later timeframe by SWC staff based on their knowledge of the project.

Table 3: Water Development Needs in the 2005-2007 Biennium

Water Supply

WATERSHED	COUNTY NAME	PROJECT	FEDERAL COST	STATE COST	LOCAL COST*	TOTAL COST
Devils Lake	Ramsey	Devils Lake: Emergency Water Source & Treat.	\$ 0	\$ 5,250,000	\$2,000,000	\$7,250,000
James	LaMoure	Southeast Regional Expansion: LaMoure, Oakes	9,130,590	0	1,014,510	10,145,100
Missouri	Multi-county	Fort Berthold Regional Transmission Line	2,880,000	0	1,120,000	4,000,000
Missouri	McKenzie	McKenzie County Rural Water: System II	4,490,500	0	1,924,500	6,415,000
Missouri	McLean	Riverdale Regional Water Treatment Facility	505,000	0	415,000	920,000
Missouri	Multi-county	South Central Regional Rural Water System	12,443,200	0	5,332,800	17,776,000
Missouri	Multi-county	Southwest Pipeline Project	0	12,650,000	1,650,000	14,300,000
Missouri	Stutsman	Stutsman Rural Water District Improv. & Expan.	700,000	0	300,000	1,000,000
Missouri	McLean	Washburn Regional Water Treatment Plant	1,000,000	0	800,000	1,800,000
Red	Cass	Cass Rural Water System Improvements	1,500,000	0	1,000,000	2,500,000
Red	Richland	City of Christine: Water Storage Reservoir	350,000	0	150,000	500,000
Red	Ransom	City of Enderlin: Water System Improvements	3,850,000	0	1,650,000	5,500,000
Red	Cass	City of Gardner: Water Storage Reservoir	245,000	0	105,000	350,000
Red	Trails	City of Hillsboro: Water Dist. System Improv.	0	0	2,020,000	2,020,000
Red	Cavalier	City of Langdon: Mt. Carmel Raw Water 2nd Line	657,150	0	353,850	1,011,000
Red	Cass	City of Mapleton: Water Storage Reservoir	455,000	0	195,000	650,000
Red	Cass	City of Page: Water System Improvements	455,000	0	195,000	650,000
Red	Multi-county	Dakota Water Users Distribution Expan.- Binford	1,267,500	0	682,500	1,950,000
Red	Walsh	Grafton Intake Replacement	182,000	0	98,000	280,000
Red	Walsh	Grafton Water Treatment Plant Improvements	2,844,205	0	1,531,495	4,375,700
Red	Grand Forks	Grand Forks Raw Water Intake & Trans. Pipelines	0	4,500	5,500	10,000
Red	Grand Forks	Grand Forks Water Distribution Improvements	0	0	1,607,244	1,607,244
Red	Pembina	North Valley Water Dist. Distrib. Expan.- Pembina	526,500	0	283,500	810,000
Red	Richland	Southeast Regional Expansion: Hankinson, Lidgerwood, Wyndmere	14,400,000	0	1,600,000	16,000,000
Red	Trails	Trails Rural Water - Regional Expansion	2,040,000	0	960,000	3,000,000
Souris	Multi-county	Northwest Area Water Supply	15,000,000	3,000,000	9,000,000	27,000,000
Total			\$74,921,645	\$20,904,500	\$35,993,899	\$131,820,044

* In some instances, all or portions of local funding for water supply projects may come from the Drinking Water State Revolving Loan Fund, or Rural Development loans.

Snagging/Clearing

WATERSHED	COUNTY NAME	PROJECT	FEDERAL COST	STATE COST	LOCAL COST	TOTAL COST
Red	Richland	Antelope Creek Snagging and Clearing	\$ 0	\$ 18,750	\$ 56,250	\$ 75,000
Red	Trails	Buffalo Coulee Improvement	0	50,000	150,000	200,000
Red	Pembina	Cart Creek Snagging and Clearing	0	112,500	337,500	450,000
Red	Trails	Elm River Snagging and Clearing	0	125,000	375,000	500,000
Red	Trails	Goose River Improvement	0	50,000	150,000	200,000
Red	Cass	Maple River Snagging and Clearing	0	25,000	75,000	100,000
Red	Cass	Red River Snagging and Clearing	0	25,000	75,000	100,000
Red	Cass	Rush River Snagging and Clearing	0	20,000	60,000	80,000
Red	Cass	Sheyenne River Snagging and Clearing	0	50,000	150,000	200,000
Red	Cass	Wild Rice River Snagging and Clearing	0	20,000	60,000	80,000
Red	Richland	Wild Rice River Snagging and Clearing	0	56,250	168,750	225,000
Total			\$0	\$552,500	\$1,657,500	\$2,210,000

Drainage/ Channel Improvements

WATERSHED	COUNTY NAME	PROJECT	FEDERAL COST	STATE COST	LOCAL COST	TOTAL COST
Missouri	Morton	Zachmeier Flats Flood Control and Drainage	0	100,000	100,000	200,000
Red	Cass	Cass County Drain #10	0	250,000	464,286	714,286
Red	Cass	Cass County Drain #45	0	87,500	162,500	250,000
Red	Cass	Cass County Drain #53	0	150,000	278,571	428,571
Red	Cass	Cass County Drain #NC-2 (22)	0	175,000	325,000	500,000
Red	Cass	Cass County Drain #NC-2 (23)	0	250,000	750,000	1,000,000
Red	Cass	Cass County Drain #NC-2 (32)	0	175,000	325,000	500,000
Red	Walsh	Channel 3 Lower Forest River	0	75,000	175,000	250,000
Red	Pembina	Drain #64 Reconstruction & Drop Structure	0	70,000	130,000	200,000
Red	Pembina	Drain #67 Reconstruction	0	122,500	227,500	350,000
Red	Pembina	Kippen Coulee	0	87,500	162,500	250,000
Red	Richland	Project #10 Reconstruction	0	245,000	455,000	700,000
Red	Richland	Project #14 Reconstruction	0	70,000	130,000	200,000
Red	Cass	Rush River Channel Reconstruction	0	100,000	185,714	285,714
Red	Walsh	Walsh County Drain #67A	0	75,000	175,000	250,000
Total			\$0	\$2,032,500	\$4,046,071	\$6,078,571

Flood Control

WATERSHED	COUNTY NAME	PROJECT	FEDERAL COST	STATE COST	LOCAL COST	TOTAL COST
Devils Lake	Multi-county	Devils Lake Outlet Operation & Maintenance	\$ 0	\$ 2,081,000	\$ 0	\$ 2,081,000
Red	Trail	Augustad Dam Rehabilitation	0	250,000	250,000	500,000
Red	Grand Forks	Dam Site #10 Upper Turtle River Watershed	1,000,000	800,000	200,000	2,000,000
Red	Cass	Fargo Southside Flood Control	9,500,000	13,750,000	13,750,000	37,000,000
Red	Walsh	Grafton Flood Control	18,926,000	3,053,250	3,053,250	25,032,500
Red	Grand Forks	Grand Forks/East Grand Forks Flood Control	26,950,000	6,200,000	11,080,000	44,230,000
Red	Cass	Lower Sheyenne River Ring Dikes	0	200,000	200,000	400,000
Red	Cass	Maple River Dam	0	5,600,000	5,600,000	11,200,000
Red	Nelson	McVile Dam Repair	0	133,332	66,668	200,000
Red	Cass	North of Fargo Flood Control	0	750,000	750,000	1,500,000
Red	Pembina	Pembina River Setback Dike System	0	350,000	650,000	1,000,000
Red	Cass	Red/Wild Rice River Farmstead Ring Dikes	0	500,000	500,000	1,000,000
Red	Pembina	Renwick Dam Rehabilitation	6,500,000	1,225,000	2,275,000	10,000,000
Red	Cass, Richland	Sheyenne River to Wild Rice River Diversion	0	2,500,000	2,500,000	5,000,000
Red	Cass	Swan Creek Diversion Reconstruction	0	375,000	375,000	750,000
Red	Cass	Swan Creek Watershed Floodwater Retention	0	1,000,000	1,000,000	2,000,000
Red	Pembina	Tongue River Cutoff	0	122,500	227,500	350,000
Red	Barnes	Upper Maple R. Watershed Floodwater Retention	0	1,500,000	1,500,000	3,000,000
Red	Cass	Upper Sheyenne River Ring Dikes	0	50,000	50,000	100,000
Red	Richland	Wahpeton Flood Control	2,593,695	1,293,695	1,300,000	5,187,390
Total			\$65,469,695	\$41,733,777	\$45,327,418	\$152,530,890

Irrigation

WATERSHED	COUNTY NAME	PROJECT	FEDERAL COST	STATE COST	LOCAL COST	TOTAL COST
Statewide	Multi-county	Irrigation Development	\$0	\$3,000,000	\$2,000,000	\$5,000,000
Total			\$0	\$3,000,000	\$2,000,000	\$5,000,000

Bank Stabilization

WATERSHED	COUNTY NAME	PROJECT	FEDERAL COST	STATE COST	LOCAL COST	TOTAL COST
Red	Cass	Red River Bank Stabilization	\$ 0	\$ 35,000	\$ 35,000	\$ 70,000
Red	Cass	Sheyenne River Bank Stabilization	0	50,000	50,000	100,000
Red	Cass	Wild Rice River Bank Stabilization	0	15,000	15,000	30,000
Total			\$ 0	\$100,000	\$ 100,000	\$ 200,000

Studies/Planning

WATERSHED	COUNTY NAME	PROJECT	FEDERAL COST	STATE COST	LOCAL COST	TOTAL COST
Red	Multi-county	Lake Agassiz Water Supply Study	N/A	150,000	0	150,000
Red	Multi-county	Red River Basin Commission	0	200,000	200,000	400,000
Statewide	Multi-county	Effects of Cloud Seeding on Ranching	0	19,000	0	19,000
Statewide	Multi-county	ND Hail Climatology and Evaluation of Effects of Cloud Seeding on Hail	0	52,000	0	52,000
Total			\$0	\$421,000	\$200,000	\$621,000

Multi-Purpose

WATERSHED	COUNTY NAME	PROJECT	FEDERAL COST	STATE COST	LOCAL COST	TOTAL COST
Missouri	Morton	Harmon Lake	\$ 1,000,000	\$ 500,000	\$ 500,000	\$ 2,000,000
Missouri	Multi-county	Missouri River Management	1,000,000	1,000,000	0	2,000,000
Red	Pembina	Drayton Dam Section 206 Improvement	1,894,000	0	1,186,000	3,080,000
Statewide	Multi-county	ND Cloud Modification	0	566,655	1,135,011	1,701,666
Total			\$3,894,000	\$2,066,655	\$2,821,011	\$8,781,666

Table 3 Cont.: Summary of Water Development Needs, 2005-2007

PROJECT CATEGORY	FEDERAL COST	STATE COST	LOCAL COST	TOTAL COST
Water Supply	\$ 74,921,645	\$ 20,904,500	\$ 35,993,899	\$ 131,820,044
Snagging & Clearing	0	552,500	1,657,500	2,210,000
Drainage/Channel Improvements	0	2,032,500	4,046,071	6,078,571
Flood Control	65,469,695	41,733,777	45,327,418	152,530,890
Irrigation	0	3,000,000	2,000,000	5,000,000
Bank Stabilization	0	100,000	100,000	200,000
Studies & Planning	0	421,000	200,000	621,000
Multi-Purpose	3,894,000	2,066,655	2,821,011	8,781,666
TOTAL	\$144,285,340	\$70,810,932	\$92,145,899	\$307,242,171

Table 4: Potential Water Development Funding Needs, 2007-2011

PROJECT CATEGORY	FEDERAL COST	STATE COST	LOCAL COST	TOTAL COST
Water Supply	137,146,595	49,824,000	89,855,379	276,825,974
Snagging & Clearing	0	238,750	716,250	955,000
Drainage/Channel Improvements	0	3,682,500	6,838,930	10,521,430
Flood Control	8,876,000	22,353,750	20,573,750	51,803,500
Irrigation	0	3,000,000	2,000,000	5,000,000
Bank Stabilization	\$ 0	\$ 255,000	\$ 249,750	\$ 504,750
Studies & Planning	N/A	N/A	N/A	N/A
Multi-Purpose	600,000	1,774,000	3,239,000	5,613,000
TOTAL	\$146,622,595	\$81,128,000	\$123,473,059	\$351,223,654

Water Project Funding

N

orth Dakota funds a majority of its water projects through the SWC.

Funding that is funneled through the SWC for water development comes from several sources including: the State's General Fund; the Dakota Water Resources Act – Municipal, Rural, and Industrial (MR&I) Water Supply Program; the Resources Trust Fund; and the Water Development Trust Fund. In addition to these sources, the SWC is also authorized to issue revenue bonds for water projects, and the SWC has shared control of the Drinking Water State Revolving Loan Fund. There are also other federal funding sources that will be briefly discussed.

General Fund

The Office of Management and Budget recommended elimination of all General Fund money for the agency for the 2001-2003 and 2003-2005 bienniums. In both cases, the Legislature restored General Fund money for the operations of the agency, but then transferred funds from the Water Development Trust Fund to the State's General Fund to cover the costs of operation. This transfer effectively eliminated the agency's funding assistance from the General Fund. It is unknown whether General Fund money without a corresponding transfer from the Water Development Trust Fund will be provided in the 2005-2007 biennium.

MR&I

A main source of funding for water supply development in North Dakota is the Dakota Water Resources Act - MR&I Water Supply Program. The federal grant funding is through the Bureau of Reclamation. Rural Development has provided the majority of loans to cover the local share.

The 1986 Garrison Reformulation Act authorized a federal MR&I grant program of \$200 million, where all but \$6 million has been obligated to date. Efforts to obtain additional federal funding authorization for the MR&I program were successful under the Dakota Water Resources Act of 2000. The Act provides resources for general MR&I projects, the Northwest Area Water Supply Project, the Southwest Pipeline Project, and a project to address water supply issues in the Red River Valley. An additional \$600 million was authorized; which includes a \$200 million grant for state MR&I, a \$200 million grant for Indian MR&I, and a \$200 million loan for a Red River Valley water supply.

Annual MR&I funding is dependent on U.S. Congressional appropriation, and thus, varying annual appropriations result in project delays. As of September 2004, \$5.7 million in federal funds had been approved for North Dakota's MR&I program for Federal Fiscal Years 2003 and 2004.

Resources Trust Fund

Section 57-51.1-07.1 (2) of North Dakota Century Code requires that "every legislative bill appropriating monies from the Resources Trust Fund (RTF), pursuant to subsection one, must be accompanied by a State Water Commission report." This report, the 2005-2007 Water Development Report, satisfies that requirement for requesting funding from the RTF for the 2005-2007 biennium.

The RTF is funded with 20 percent of the revenues from the oil extraction tax. A percentage of the RTF has been designated by constitutional measure to be used for water-related projects and energy conservation. The SWC budgets money for cost-share based on a forecast of oil extraction tax revenue for the biennium, which is provided by the Office of Management and Budget.

Revenues into the RTF for the current biennium are expected to total \$9.8 million. Future revenues from the oil extraction tax are highly dependent on world oil prices, which make it difficult to predict future funding levels. However, for budgeting purposes, the SWC estimates new revenues of \$12.5 million for the 2005-2007 biennium from oil extraction.

Additional new revenue into the RTF will come from Southwest Pipeline reimbursements, MR&I program loan repayments (which amount to \$1 million per biennium through year 2017), interest, and oil royalties. The total new RTF revenue available for

water development during the 2005-2007 biennium will total about \$14.5 million. Additional carryover totaling \$5.4 million is also expected from the RTF.

Water Development Trust Fund

Senate Bill 2188 set up a Water Development Trust Fund as a primary means of repaying the bonds it authorized. House Bill 1475 allocated 45 percent of the funds received by the state from the 1998 tobacco settlement into the Water Development Trust Fund. Revenues into the Water Development Trust Fund for the current biennium are expected to total almost \$20.8 million. The SWC estimates revenues of \$20.6 million for the 2005-2007 biennium. Revenues are projected to increase to \$33.1 million per biennium for the 2007-2009 through 2015-2017 bienniums and then fall back to \$23.6 million for the 2017-2019 through 2023-2025 bienniums. Payments into the fund are scheduled through 2025 at a level based on inflation and tobacco consumption.

Bonding

The SWC has bonding authority (NDCC 61-02-46) to issue revenue bonds of up to \$2 million for projects. The Legislature must authorize revenue bond authority beyond \$2 million per project. In 1991, the Legislature authorized full revenue bond authority for the Northwest Area Water Supply (NAWS) Project, in 1997 it authorized \$15 million of revenue bonds for the Southwest Pipeline, and in 2001 it raised the Southwest Pipeline authority to \$25 million.

The SWC was authorized to issue up to \$84.8 million dollars in appropriation bonds under provisions of SB 2188. The Legislature's intent was to partially fund flood control projects at Grand Forks, Devils Lake, Wahpeton, and Grafton, and to continue funding for the Southwest Pipeline. In March 2000, the SWC issued bonds generating \$27.5 million, thus reducing available bonding authority to \$57.3 million. Recognizing the need for water development projects in addition to those identified in SB 2188, the 2003 Legislature allowed authority for the unissued \$57.3 million to expire, but then authorized \$60 million of bonding authority for statewide water development projects.

Because the SWC did bond against Water Development Trust Fund revenues in 2000, \$5.4 million is needed each biennium to make bond payments through the 2019-2021 biennium. In addition, the SWC included additional bond proceeds of \$60 million in its 2003-2005 budget request. Payments on this bond issue could be \$8.9 million in the 2005-2007 biennium.

Drinking Water State Revolving Loan Fund

An additional source of funding for water development projects is the Drinking Water State Revolving Loan Fund (DWSRLF). Funding is distributed in the form of a loan program through the Environmental Protection Agency administered by the North Dakota Department of Health (NDDH). The DWSRLF provides below market-rate interest loans of 3 percent to public water systems for capital improvements aimed at increasing public health protection and compliance under the federal Safe Drinking Water Act.

The SWC's involvement with the DWSRLF is two-fold. First, the NDDH must administer and disburse funds with the approval of the SWC. Second, the NDDH must establish assistance priorities and expend grant funds pursuant to the priority list for the drinking water treatment revolving loan fund, after consulting with and obtaining the SWC's approval.

The process of prioritizing new or modified projects is completed on an annual basis. Each year, the NDDH provides an Intended Use Plan, which contains a comprehensive project priority list and a fundable project list. As of 2004, the comprehensive project priority list includes 77 projects with a cumulative total project funding need of \$163.7 million. The fundable list includes \$31.8 million for fiscal years 1997 through 2004. Available funding for the DWSRLF program during the 2005-2007 biennium is anticipated to be approximately \$19 million.

Other Federal Funding

With regard to other federal funding, the U.S. Army Corps of Engineers provides significant assistance to North Dakota for flood control projects. The Environmental Protection Agency, U.S. Bureau of Reclamation, U.S. Geological Survey, and the Natural Resources Conservation Service also contribute to the state's water development efforts in many different ways, including studies, project design, and project construction.

Funding Priorities for 2005-07 Biennium

Table 5: Comparison of Prioritized State Funding Needs with Total Water Development Needs from SWMP Database 2005-2007 Biennium

This section discusses the state's priority water development efforts and funding for the 2005-2007 biennium. It includes one course of action for water development in the state that is subject to change during the legislative process and the biennium.

Biennial Water Development Project Budget

The projects identified as priorities have state cost-share requirements of approximately \$24.3 million. In addition, \$14.3 million is required for bond repayments and \$7.5 million for agency operations. It should be noted that the \$24.3 million for priority projects falls far short of the actual biennial state funding need identified by project sponsors across the state, which exceeds \$70 million (Table 5).

To meet the financial commitment these projects require, in addition to meeting bond repayments, and agency operations; the SWC will have \$46.1 million available in new funding and uncommitted carryover, as outlined in Table 6.

Project Descriptions

North Dakota's prioritized water development funding needs are grouped into several main categories in Table 6. Each of those projects and categories are explained below.

PROJECT CATEGORY	PRIORITIZED NEED*	SWMP NEEDS
Devils Lake Outlet Operation	\$ 2,000,000	\$ 2,081,000
Lake Agassiz Water Supply	150,000	150,000
Flood Control	8,800,000	30,646,945
General Water Management	4,800,000	13,361,832
Irrigation	500,000	3,000,000
Missouri River Management	100,000	100,000
Municipal, Rural, & Industrial	2,000,000	5,254,500
Northwest Area Water Supply	3,000,000	3,000,000
Southwest Pipeline Project	2,600,000	12,650,000
Weather Modification	350,000	566,655
TOTAL	\$ 24,300,000	\$ 70,810,932

* Priorities are for new funding and uncommitted carryover only.

DEVILS LAKE OUTLET OPERATION

Once the state's Devils Lake emergency outlet to the Sheyenne River is completed in 2005, it is estimated that operation and maintenance costs will total just over \$2 million per biennium.

The state outlet is currently sized for 100 cubic feet per second (cfs), but can be expanded to 300 cfs in the future with additional work. The outlet will consist of: two pumping plants, one on the Round Lake portion of Devils Lake, and the second near Lake Josephine; approximately 4 miles of pipeline; and 10 miles of open channel.

LAKE AGASSIZ WATER SUPPLY STUDY

Funding in the amount of \$150,000 is necessary to cost-share with the U.S. Bureau of Reclamation for a water supply assessment of the Red River Valley. This assessment will help identify the best alternatives to meet

the valley's ever increasing water supply needs.

WAHPETON FLOOD CONTROL

The Wahpeton flood control project consists of a permanent levee system to protect the city, and a flood easement to keep breakout flows from being blocked in the future. Stage 1 construction, which includes interior pumping stations, ponding areas, and other interior flood control features, is substantially complete. The Stage 2 construction award, for a portion of the in town levees, is scheduled for 2005. And, Stage 3, which includes the remaining levee sections, will be completed in concert with the Breckenridge, Minnesota flood control project. Completion of the Stage 3 portion of the Wahpeton flood control project is scheduled for 2008.

State funding in the amount of \$1.3 million is necessary for the Wahpeton

Table 6: Funding of Biennial Water Development Priorities
2005-2007 Biennium

PRIORITY PROJECTS	BUDGET	COMMENTS
	New Funds & Uncommitted Carryover (millions)	
Devils Lake Outlet Operation	\$ 2.0	O&M - \$1.0 million per year.
Devils Lake Basin Development	0	
Lake Agassiz Water Supply	0.15	
Grand Forks Flood Control	0	Full \$52 million committed in 2003-2005.
Wahpeton Flood Control	1.3	This commits the original \$3.5 million.
Grafton Flood Control	-4.1	Project currently on hold due to unfavorable city vote.
Fargo Flood Control	6.0	Does not include \$2.5 million committed in 2003-2005.
Maple River Dam	5.6	Does not include \$4.5 million committed in 2003-2005.
General Water Management	4.8	
Irrigation	0.5	
Missouri River Management	0.1	
Municipal, Rural, & Industrial	2.0	Does not include \$0.5 million committed in 2003-2005.
Northwest Area Water Supply	3.0	Advance of federal MR&I funds.
Southwest Pipeline	2.6	
Weather Modification	0.35	Allows continuation of current program.
PROJECT SUBTOTAL	\$ 24.3	
SWC Operation	7.5	
Bond Payments	14.3	
EXPENDITURE TOTAL	\$ 46.1	

REVENUE SOURCES	AVAILABLE 2005-2007 (millions)	COMMENTS
Resources Trust Fund (new)	\$ 14.5	Primarily oil extraction tax.
Carryover	11.0	Uncommitted carryover from 2003-2005.
Water Development Trust Fund	20.6	State tobacco settlement - 45%.
REVENUE TOTAL	\$ 46.1	

project during the 2005-2007 biennium. This will fulfill the state's \$3.5 million commitment to Wahpeton.

FARGO FLOOD CONTROL

The \$6.0 million budgeted for Fargo's flood control efforts would pay for a portion of the Fargo Southside Flood Control Project. The Southside project will protect portions of south Fargo from flooding from the Red, Wild Rice, and Sheyenne Rivers. A dike and diversion channel will be constructed

to intercept overland floodwater south of town. The project will also include backup protection and a pump station at Rose Coulee near Highway 81.

MAPLE RIVER DAM

Maple River Dam will be located in southeast North Dakota, approximately eight miles north of Enderlin. When completed, this dry dam will be a 70-foot high earthen embankment, capable of temporarily retaining 60,000 acre-feet of floodwater. Maple

River Dam is designed to provide flood protection along the Maple, Sheyenne, and Red Rivers, and it is the fourth phase of the Sheyenne River Flood Control Project. The other completed phases are the West Fargo Sheyenne River Diversion, the Horace to West Fargo Sheyenne River Diversion, and the five-foot flood pool raise at Baldhill Dam.

State funding totaling \$5.6 million in new funds is budgeted for Maple River

Dam during the 2005-2007 biennium. The project is scheduled for completion in 2006.

GENERAL WATER MANAGEMENT

General water management projects include rural flood control, snagging and clearing, channel improvements, recreation projects, planning efforts, and special studies. As outlined in Table 5, general water management project funding needs total about \$13 million for the 2005-2007 biennium. Obviously, the availability of sufficient funding prohibits the state from providing cost-share to meet all general water management project funding needs. As a result, \$4.8 million is budgeted to fund a portion of the state's general projects that are ready to proceed.

IRRIGATION

The \$500,000 budgeted for irrigation will fund the continued development of North Dakota's AgPACE program. The AgPACE program provides low-interest financing to on-farm businesses. The funds are used to buy down the interest rate on loans that have been approved by a local lender and the Bank of North Dakota. It may be used for any business, except traditional production agriculture, which is integrated into the farm operation and is used to supplement farm income. The development of irrigation qualifies for the program.

Since it is expected that as much as \$650,000 may carryover from what was budgeted for the AgPACE program during the 2003-2005 biennium, a portion of the 2005-2007 budget could be used for other irrigation development throughout the state.

MISSOURI RIVER MANAGEMENT

The BOMMM Joint Water Resource

Board, which consists of Burleigh, Oliver, Morton, Mercer, and McLean Counties, is moving ahead with the next phase of a coordinated resource management plan for the Missouri River between Garrison Dam and Bismarck-Mandan. Most recently, the BOMMM Board completed a conceptual plan that addresses development issues along the Missouri River.

The \$100,000 budgeted for the 2005-2007 biennium will help the BOMMM Board build on that effort, which ultimately will result in the completion of a more comprehensive management plan for the Garrison reach of the Missouri River.

MR&I

Because of North Dakota's MR&I program, regional and rural water systems have continued to expand throughout the state. As a result of this added assistance, there are now 32 regional water systems in North Dakota, providing quality drinking water to 25 percent of the state's population. Over 158,000 residents are served by regional water systems, including 294 cities, 21 subdivisions, and over 90,000 rural residents. Currently, all or part of 47 of North Dakota's 53 counties are served by regional water systems, and most have plans to expand to cover additional areas. The \$2.0 million budgeted for the MR&I water supply program would provide assistance toward that effort.

NORTHWEST AREA WATER SUPPLY

The \$3.0 million budgeted for the Northwest Area Water Supply (NAWS) project would go toward the completion of main transmission pipeline contracts between Max and the Missouri River.

When completed, NAWS will provide up to 2 million gallons of Missouri

River water per day to at least 63,000 citizens in northwest North Dakota. With additional rural development, NAWS could serve as many as 81,000.

SOUTHWEST PIPELINE PROJECT

The \$2.6 million budgeted for the Southwest Pipeline Project would be used to complete as much of the Medora-Beach regional service area as possible. This includes the Fryburg, Beach, and Golva rural water service areas, and the Fairfield and Trotters pockets in the Medora-Beach area. The Golva Service Area will include service to the City of Golva. Two pockets of users in Morton County, which have not yet been served by the Missouri West Water System, are also areas of potential expansion. If funding is limited to the point where all objectives cannot be met, the Commission and Southwest Water Authority will jointly determine priorities.

The Southwest Pipeline currently provides one billion gallons of treated Missouri River water to over 34,000 residents in southwest North Dakota.

WEATHER MODIFICATION

State funding in the amount of \$350,000 is budgeted for operational cloud seeding costs with counties participating in the North Dakota Cloud Modification Project. The Atmospheric Resources Board currently cost-shares approximately 35 percent of operational costs, with participating counties paying the remaining 65 percent. This funding request should allow the program to continue at its current level of capability for the 2005-2007 biennium, however, county funding levels will likely have to increase.

Appendix

NORTH DAKOTA STATE WATER COMMISSION COST-SHARE POLICIES, PROCEDURES, AND GENERAL REQUIREMENTS

It is the policy of the State Water Commission (SWC or Commission) that the following categories of projects shall be eligible for cost-sharing, and that the projects are consistent with the public interest to receive cost-share funding from the agency's appropriated funds. Projects that receive Federal Emergency Management Agency funding and/or financial support from the state's Division of Emergency Management Fund are not eligible for funding through the SWC. No funds shall be used in violation of the Anti-Gift Clause of the North Dakota Constitution.

ELIGIBLE ITEMS FOR SWC COST-SHARING

It is the policy of the SWC that the following items shall be eligible for cost-share upon approval:

- I. Construction costs, which include, but are not limited to earthwork, concrete, mobilization and demobilization, dewatering, materials, seeding, rip-rap, re-routing electrical transmission lines, moving storm and sanitary sewer systems and other underground utilities and conveyance systems, irrigation supply works, and other items and services provided by the contractor. The costs must have been incurred after the cost-share approval date.
- II. Preliminary engineering costs preceding the cost-share approval date up to a maximum of two years. Final engineering costs incurred after the cost-share approval date.

The eligibility of certain items for cost-share may be addressed on an individual basis and presented to the SWC for consideration if deemed appropriate by Commission personnel.

NON-ELIGIBLE ITEMS FOR SWC COST-SHARING

It is the policy of the SWC that the following items shall generally not be eligible for cost-sharing:

- I. Acquisition of property interests in fee or easement for projects.
- II. Administrative and legal expenses incurred in connection with any project.
- III. Maintenance work, deferred maintenance, or repairs on any project, except for maintenance that may be required as a result of an unusual climatological event or dam safety repair.
- IV. Projects that do not receive cost-share approval prior to the commencement of the project.
- V. Construction and final engineering costs incurred prior to cost-share approval.
- VI. Preliminary engineering costs incurred earlier than two years preceding the cost-share approval date.
- VII. Some funding contributions provided by other entities that reduce the project cost to the applicant.
- VIII. Work incurred outside the scope of the project.
- IX. Technical assistance provided as in-kind.

COST-SHARE APPLICATION AND APPROVAL PROCEDURES

It is the policy of the SWC to provide cost-share funding for water development projects. The State Engineer has the authority to cost-share up to \$20,000 without Commission action. Projects estimated in excess of \$20,000 must be presented to the Commission for approval.

The following are general cost-share application procedures and requirements for SWC and State Engineer approval:

- I. The SWC will not consider any request for cost-sharing for water-related projects unless an application is first made to the State Engineer. The applicant must be a federal or state entity, a political subdivision, or a commission legislatively granted North Dakota recognition.
- II. The applicant for cost-sharing must also address the appropriate federal, state, and local permits required. No contract will be initiated until all required permits have been issued.
- III. An application for cost-sharing must be in writing, but is not required to be in a prescribed format. A "North Dakota State Water Commission Project Information and Cost-Share Request Form" is available from the Commission upon request. The application must include the following:
 - A. Description and location of the proposed project
 - B. Purpose, goal, objective/narrative of the proposed project
 - C. Delineation of costs
 - D. Preliminary designs, if applicable
 - E. Scope of work for an engineering feasibility study
 - F. Additional information as deemed appropriate by the State Engineer
- IV. Upon receiving an application for cost-sharing, the State Engineer shall review the application and accompanying information. If the State Engineer is satisfied that the proposal meets all of the requirements, the State Engineer shall present the application to the SWC for approval (for projects where the state cost-share amount is greater than \$20,000), or the State Engineer may make a determination for approval (state cost-share amount is \$20,000 or less). The State Engineer's review of the application will include the following items, and any other considerations that the State Engineer deems necessary and appropriate.
 - A. If the application for cost-sharing is for project construction, a field inspection will be made, if deemed necessary by the State Engineer. Previous field inspections made by the State Engineer as part of a permit application may satisfy this requirement.
 - B. Engineering plans and specifications will be reviewed.
 - C. If the request is for a study, the State Engineer will review the application to ensure that the study qualifies as an eligible study as defined by the SWC.
 - D. The amount of eligible cost-share will be determined by the project type or the amount requested by the applicant.
- V. For projects with a state cost-share amount in excess of \$20,000, the State Engineer shall place the application for cost-sharing on the tentative agenda of the SWC meeting at which the application will be presented. The State Engineer shall give notice to such applicant when the project will be presented to the Commission.
- VI. The State Engineer will make a recommendation to the Commission on an application in excess of \$20,000 for state cost-sharing at the meeting of the Commission when such application for cost-sharing is presented. No funds will be disbursed until the SWC and applicant(s) have entered into a contract for state cost-share participation.
- VII. If a project for which an application for cost-sharing has been submitted is the subject of litigation, the application may be deferred until the litigation is resolved. If a project for which the SWC or State Engineer has approved a cost-sharing request becomes the subject of litigation before the funds approved by the Commission have been disbursed, the State Engineer may withhold such funds until the litigation is resolved.
- VIII. Engineering designs, plans, and specifications for the construction of a project must be approved by the State Engineer. The applicant/project sponsor must also comply with North Dakota Century Code in the soliciting and awarding of bids and contracts, and all federal, state, and local laws.
- IX. All applications for cost-sharing shall be reviewed to determine if other local or state agencies are participating in the project costs. If so, the SWC will take this into account, and may reduce the percentage of Commission cost-sharing accordingly.

X. The State Engineer may make partial payment of cost-sharing funds as deemed appropriate. Upon notice by the applicant/project sponsor that all work or construction has been completed, the State Engineer may conduct a final field inspection. If the State Engineer is satisfied that construction has been completed in accordance with the designs, plans, and specifications for the project, the final payment for cost-sharing, as approved by the SWC, shall be disbursed to the project sponsor, less any partial payment(s) previously made. Engineering feasibility studies are only entitled to one payment.

XI. Except as otherwise provided, the SWC shall require that the applicant for cost-sharing be responsible for maintenance and repairs of the project.

PROJECTS ELIGIBLE FOR SWC COST-SHARING

I. *Rural Flood Control Projects.* The primary purpose of rural flood control projects is to manage runoff/drainage from agricultural sources or to provide flood control in a rural setting. Typically, rural flood control projects consist of drains, channels, diversion ditches, or ring dikes. The SWC has established design criteria for rural flood control projects. Projects that are managing runoff/drainage from urban sources are not eligible for SWC cost-share participation.

A. Drains, Channels, and Diversion Ditches. The Commission will cost-share for up to 35 percent of the eligible items for the construction of drains, channels, and diversion ditches. Improvement reconstructions are reimbursed at 35 percent, less maintenance per a sediment analysis, or at 30 percent if a sediment analysis is not provided. The cost-share of any one project is capped per biennium. County and township road crossing works that are an integral part of the drains, channels, and diversion ditches and the appropriate costs for engineering work, excluding any land rights, administration and legal costs, are eligible for cost-share. A Water Resource District applying for cost-sharing for a rural assessment-based flood control project must comply with regulatory statutes per the North Dakota Century Code. If an assessment-based rural flood control project is to be established within two or more districts, or the project is sponsored by two or more districts, and financial participation is sought from the SWC, each district involved must join in the application for financial assistance.

B. Ring Dikes. A ring dike program shall be sponsored, developed, and administered by a federal, state, or political subdivision consisting of one or more occupied farmsteads and/or rural residences. Ring dikes will receive up to 50 percent cost-share of the eligible items, limited to a maximum of \$25,000 per ring dike. All ring dikes within the program are subject to the Commission's minimum design criteria standards, eligible items, and costs.

II. *Water Supply Projects.* The SWC will cost-share for up to 50 percent of the eligible items of any cost-sharing application approved for water supply projects. These projects are commonly associated with dams and water retention methods. If sufficient funds are not available for all competing cost-sharing applications, water supply projects for domestic, municipal, and rural uses shall receive highest priority.

III. *Flood Control Projects.* The SWC will cost-share for up to 50 percent of the eligible items of any cost-sharing application approved for flood control projects. The nature of these projects is to protect communities from flooding and may include the repair of dams that provide a flood control benefit. These projects are commonly associated with dams, dikes, levees, diversion channels, water retention structures/methods, dam repairs, drop structures, and miscellaneous flood control programs.

IV. *Recreation Projects.* The SWC will cost-share for up to 33.33 percent of the eligible items of any cost-sharing application approved for the purpose of water-based recreation. Various types of projects may constitute a recreation project.

V. *Snagging & Clearing.* The SWC will cost-share for up to 25 percent of the eligible items for snagging and clearing on natural streams. Removal of sediment, woody vegetation (snagging & clearing), or waterborne debris from artificial rural flood control projects which has been deposited over a number of years and has reduced the hydraulic capacity of a rural flood control project is not eligible for SWC cost-share participation.

VI. *Studies, Reports, Analyses, Surveys, Models, Assessments, Mapping.* The SWC will cost-share for up to 50 percent of the eligible items of any cost-sharing application approved for studies, reports, analyses, surveys, models, assessments, and mapping projects. The percentage of funds is limited by the maximum cost-share limits of eligible project categories to which the purpose of the project corresponds. A paper and electronic copy of the study, report, analysis, survey, model, assessment or

mapping project must be provided to the SWC upon completion. One payment will be reimbursed to the project sponsor upon the copy receiving review and approval from SWC personnel.

A. *Engineering Feasibility Studies.* An engineering feasibility study identifies a water-related problem and the alternatives/options to solve or alleviate the problem, an evaluation of the alternatives/options for technical, engineering, and financial feasibility, and the selection of an alternative/option.

B. *Other Studies, Reports, and Analyses.* The purpose of these projects is to gather data and/or accomplish a specific task such as flood insurance studies, hydraulic modeling, and flood insurance mapping projects.

VII. *Irrigation.* The SWC will cost-share for up to 40 percent of the eligible items of any cost-sharing application approved for irrigation projects. The cost-share must be limited to supporting the irrigation development efforts of political subdivisions. The items eligible for cost-share are those associated with new central supply works, to include water storage facilities, intake structures, wells, pumps, power units, primary water conveyance facilities, electrical transmission and control facilities, and engineering.

VIII. *Bank Stabilization.* The SWC will cost-share for up to 50 percent of the eligible items of any cost-sharing application approved for bank stabilization projects on public lands. Public lands are defined by the SWC as land that all of the public has a right to use.

IX. *Technical Assistance.* The SWC will cost-share for up to 50 percent of eligible costs based on and limited to the type of project as described above. In some cases a portion of the assistance provided may be in the form of in-kind technical assistance. The cost or value of the technical assistance will count toward the Commission's total contribution. The project sponsor, upon awarding a contract for the construction or other work to be performed for a project in which the SWC is providing technical assistance, shall file a copy of the contract with the State Engineer.